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Lupe L. Rosas

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTOR(S): Herbert VOGT *et al*

CONFIRMATION NO. 9143

SERIAL NO.: 10/565,176

ART UNIT: 3657 DOCKET M 5339 HO

FILED: January 19, 2006

EXAMINER: RASHID, Mahbubur

TITLE: COUPLING/BRAKE COMBINATION

March 9, 2009

INFORMATION DISCLOSURE STATEMENT

Attached is a copy of the International Search Report and each non-US patent publication listed on the attached PTO form which are presumably already of record in this application. These publications comprise art of which applicants are aware which may be material to the examination of this application and for which there may be a duty to disclose in accordance with Rule 1.56. This Statement shall not be construed as a representation that a search has been made nor an admission that any information referred to herein is in fact material to patentability.

This statement is being submitted prior to receipt and presumably prior to the

Examiner's official search and official action therefore no fee is believed necessary. Should a fee be necessary for submission of this statement, please charge it to Deposit Account 18-2069. A duplicate copy of this letter is enclosed.

U.S. Patent 3,338,349 discloses an electric motor with a magnetic friction brake – which means that braking only takes place when electric energy is supplied. In other words, this is not a safety brake which applies the braking force once there is an absence of electric energy – which absence could be accidental. Moreover, the torque transmission via key and slot 23 is disadvantageous because it always involves a certain unavoidable play between the output shaft 22 and the driven element (not shown).

PCT Publication No. WO 02/084841 discloses a brake/coupling combination for a motor, preferably an electric motor, consisting of a brake which can be attached to the motor, the brake having a flange (1) with which it is directly connected to a correspondingly shaped part of the motor, characterized in that the brake is mounted on the end of the shaft (9) of the motor by means of a hub (4) and that a flexible coupling (K) connects directly to the brake for connection to a second shaft. This reference is applicant's own case and is considered to be the closest prior art reference and is discussed in the introductory portion of the present application.

U.S. Patent 6,413,164 pertains to a torsionally rigid, play-free, metal bellows-type, flexible shaft coupling for the torque-transmissive interconnection of two shafts. A metal bellows (1) has its generally axially flanged-out ends (1') clamped on the ends of shafts (4) for frictional

engagement. For the provision of a torsionally rigid, torsionally play-free and flexible coupling which can be manufactured inexpensively, which is readily available due to a modular design and which does not affect the drive train dynamics, the ends (1') of metal bellows (1) have clamping rings (2, 2a) placed thereon which have slots (2') therein and are adapted to be compressed by the width of slot (2') to preferably directly clamp the ends (1') of metal bellows (2) down on shafts (4). This prior art reference is applicant's own US patent and it only shows one element of the entire combination of features in the present application.

A concise explanation of the relevance of each non-English language publication, as presently understood, is set forth below.

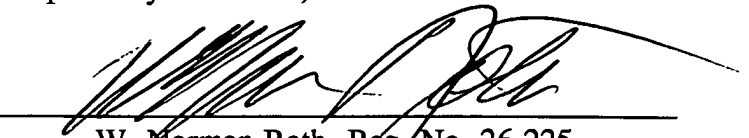
French Patent 1,431,052 discloses the combination of a well-known spring actuated braking device (Fig. 1) with a coupling device (Fig. 7) which connects the two shafts when no voltage/electricity is provided via a slip ring. Such a slip ring is identified by "p" in Fig. 13 which also shows a combination braking and coupling device, except with two rotors for braking purposes.

German Published Patent Application DE 196 14 945 discloses a plate (18) permanently fixed to the inner armature disc (10) on the side facing the brake lining (8) and brake function tests make use of a handle which can be released and moved into its open setting onto inner or outer (11) armature discs against the closing force of the springs (12, 13). An adaptor (19) on the radially outer end of the plate is traversed by a screw (21) itself anchored first in the

magnet (14) and otherwise fitted with a head (22). A bridge piece (23) between screw head and adaptor produces a gap (24) used for the function testing. Function testing involves inserting the key with wide or narrow end into the gap. Tension is applied so the key covers or grasps the bridge over the test gap and thus clamps either inner or outer disc to the magnet to open and close the respective brake circuits. In essence this prior art reference pertains to a spring actuated braking device which produces the braking action when the electric energy is disconnected or fails. The brake is connected to the housing of a gear box and there is neither an elastic coupling nor a central hub for transmitting the torque.

French Patent 1 399 381 was only cited in the International Search Report of Dec. 2004 as a prior art reference in category A, i.e., of a similar technological background and pertains to a friction brake in general. No foreign counterparts exist but a computer-generated English translation of a summary thereof is enclosed.

Respectfully submitted,



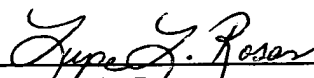
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